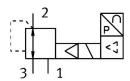
## Proportional pressure control valve VPPE-3-1-1/8-2-420-E1 Part number: 557774

**FESTO** 





## **Data sheet**

| Abaust nominal width  Ctuation type  Electrical  Electrical  Soft  Any Preferably upright  tructural design Pilot-controlled diaphragm regulator  For all electrical connections  afety instruction  For all electrical connections  WPE safety position: if the supply cable breaks, the outlet pressure is maintained in uncontrolled form.  everse polarity protection  for all electrical connections  everse polarity protection  Everse polarity protection  for all electrical connections  everse polarity protection  Everse politic protecti | Feature                           | Value                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------|
| Abaust nominal width  Ctuation type  Electrical  Electrical  Soft  Any Preferably upright  tructural design Pilot-controlled diaphragm regulator  For all electrical connections  afety instruction  For all electrical connections  WPE safety position: if the supply cable breaks, the outlet pressure is maintained in uncontrolled form.  everse polarity protection  for all electrical connections  everse polarity protection  Everse polarity protection  for all electrical connections  everse polarity protection  Everse politic protecti | Nominal width pressurization      | 5 mm                                      |
| ealing principle Soft  Nounting position Any Preferably upright  tructural design Pilot-controlled diaphragm regulator Professive positions  Are present with controlled diaphragm regulator Professive positions of all electrical connections  VPPE safety position: if the supply cable breaks, the outlet pressure is maintained in uncontrolled form.  For all electrical connections  everse polarity protection For all electrical connections  everse polarity protection Professive method Mechanical spring Pilot-controlled  alve function 3-way proportional pressure control valve  Italian design desig | Exhaust nominal width             | 2.5 mm                                    |
| ealing principle  Mounting position  Any Preferably upright  tructural design  Pilot-controlled diaphragm regulator  For all electrical connections  afety instructions  Present position: if the supply cable breaks, the outlet pressure is maintained in uncontrolled form.  everse polarity protection  esest method  Mechanical spring  ype of control  alve function  Pilot-controlled  alve function  3-way proportional pressure control valve  isplay type  LED display  3-digit  ressure regulation range MPa  0.002 MPa0.2 MPa  1.012 MPa  1.012 MPa  1.013 MPa0.4 MPa  1.014 MPa  1.015 MPa  1.0       | Actuation type                    | Electrical                                |
| Preferably upright tructural design Pilot-controlled diaphragm regulator hort-circuit protection For all electrical connections afety instructions VPPE safety position: if the supply cable breaks, the outlet pressure is maintained in uncontrolled form. everse polarity protection for all electrical connections everse polarity protection Pilot-controlled form. eset method Mechanical spring ype of control Pilot-controlled alve function 3-way proportional pressure control valve tisplay type LED display                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Sealing principle                 | Soft                                      |
| hort-circuit protection afety instructions  Are plainty protection afety instructions  Are plainty protection  Are proportional pressure control plainty  Are proportional plainty  Are proportional plainty  Are proportional pressure control plainty  Are p | Mounting position                 |                                           |
| Arressure regulation range MPa ressure regulation range MPa ressure regulation range MPa ressure regulation range the pressure 1 alter pressure 1 alter pressure 1 alter pressure 1 alter pressure hysteresis divided nominal flow rate Coperating voltage range Arx. current consumption Let Coperating voltage range Arx. current consumption Arx. electrical power consumption Arx. electrical power consumption Arx. electrical power consumption Arx. electrical power consumption Arx. proposed arx of the pressure of t | Structural design                 | Pilot-controlled diaphragm regulator      |
| maintained in uncontrolled form.  for all electrical connections  eset method  Mechanical spring  ype of control  Pilot-controlled  alve function  3-way proportional pressure control valve  LED display 3-digit  ressure regulation range MPa  0.002 MPa0.2 MPa  ressure regulation range  0.02 bar2 bar  altet pressure 1  altet pressure 1 MPa  0.3 MPa0.4 MPa  Alax. pressure hysteresis  0.002 MPa 0.02 bar 0.29 psi  attandard nominal flow rate  Coperating voltage range  21.6 V26.4 V  Alax. current consumption  160 mA  alax. electrical power consumption  4.2 W  esidual ripple  witching output  malog output signal range  4-20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Short-circuit protection          | For all electrical connections            |
| Mechanical spring type of control alve function 3-way proportional pressure control valve LED display 3-digit ressure regulation range MPa 0.002 MPa0.2 MPa ressure regulation range 0.02 bar2 bar altet pressure 1 Altet pressure 1 MPa 0.03 MPa0.4 MPa Alax. pressure hysteresis 0.002 MPa 0.02 bar 0.29 psi tandard nominal flow rate 310 l/min CO operating voltage range 21.6 V26.4 V Alax. current consumption 160 mA Alax. electrical power consumption 4.2 W esidual ripple witching output unalog output signal range 4 - 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Safety instructions               |                                           |
| Pilot-controlled  alve function  3-way proportional pressure control valve  LED display 3-digit  ressure regulation range MPa  0.002 MPa0.2 MPa  1.002 bar2 bar  3 bar4 bar  1.002 MPa  1.004 MPa  1.005 MPa  1.005 MPa  1.007 MPa  1.007 MPa  1.008 MPa  1.009 MPa  1.000          | Reverse polarity protection       | for all electrical connections            |
| alve function  3-way proportional pressure control valve  LED display 3-digit  ressure regulation range MPa  0.002 MPa0.2 MPa  1.002 bar2 bar  3 bar4 bar  1.002 MPa  1.004 MPa  1.009 MPa  1.000 MPa  1          | Reset method                      | Mechanical spring                         |
| LED display 3-digit ressure regulation range MPa  0.002 MPa0.2 MPa ressure regulation range  0.02 bar2 bar  3 bar4 bar  nlet pressure 1 MPa  0.3 MPa0.4 MPa  0.002 MPa 0.02 MPa 0.02 MPa 0.03 MPa0.4 MPa  0.002 MPa 0.02 par 0.29 psi  tandard nominal flow rate  310 l/min  0 operating voltage range  21.6 V26.4 V  Max. current consumption  160 mA  100%  Max. electrical power consumption  4.2 W  esidual ripple  10 %  witching output  pnalog output signal range  4 - 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Type of control                   | Pilot-controlled                          |
| 3-digit ressure regulation range MPa  0.002 MPa0.2 MPa ressure regulation range  0.02 bar2 bar  3 bar4 bar  nlet pressure 1 MPa  0.3 MPa0.4 MPa  Max. pressure hysteresis  0.002 MPa 0.02 bar 0.29 psi  standard nominal flow rate  310 l/min  Coperating voltage range  21.6 V26.4 V  Max. current consumption  160 mA  suty cycle  100%  Max. electrical power consumption  4.2 W  residual ripple  10 %  witching output signal range  4 - 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Valve function                    | 3-way proportional pressure control valve |
| ressure regulation range  0.02 bar2 bar  3 bar4 bar  1 let pressure 1 MPa  0.3 MPa0.4 MPa  0.002 MPa 0.02 bar 0.29 psi  1 tandard nominal flow rate  3 10 l/min  1 C operating voltage range 21.6 V26.4 V  1 Aax. current consumption 160 mA  1auty cycle 100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  100%  10             | Display type                      |                                           |
| Alet pressure 1 MPa 0.3 MPa0.4 MPa 0.3 MPa0.4 MPa 0.002 MPa 0.02 bar 0.29 psi 0.29 psi 0.29 psi 0.26 V26.4 V 0.26.4 V 0.26 MAX. current consumption 160 mA 0.00% MAX. electrical power consumption 4.2 W 0.20 MAX. electrical power consumption 10 % witching output 10 % MAX. and output signal range 4 - 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Pressure regulation range MPa     | 0.002 MPa0.2 MPa                          |
| Ax. current consumption Ax. current consumption Ax. electrical power consumption Ax. electrical pow | Pressure regulation range         | 0.02 bar2 bar                             |
| Anax. pressure hysteresis  0.002 MPa 0.02 bar 0.29 psi  standard nominal flow rate  310 l/min  Of operating voltage range  21.6 V26.4 V  Anax. current consumption  160 mA  Tuty cycle  100%  Anax. electrical power consumption  4.2 W  Tesidual ripple  10 %  witching output  pNP  analog output signal range  4 - 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Inlet pressure 1                  | 3 bar4 bar                                |
| 0.02 bar 0.29 psi  Itandard nominal flow rate 310 l/min C operating voltage range 21.6 V26.4 V  Max. current consumption 160 mA  Puty cycle 100%  Max. electrical power consumption 4.2 W  Residual ripple 10 %  Witching output Inalog output signal range 4 - 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Inlet pressure 1 MPa              | 0.3 MPa0.4 MPa                            |
| 21.6 V26.4 V  Max. current consumption 160 mA  Tuty cycle 100%  Max. electrical power consumption 4.2 W  Tesidual ripple 10 %  Witching output Inalog output signal range 4 - 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Max. pressure hysteresis          | 0.02 bar                                  |
| Max. current consumption 160 mA tuty cycle 100%  Max. electrical power consumption 4.2 W tesidual ripple 10 % twitching output PNP that analog output signal range 4 - 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Standard nominal flow rate        | 310 l/min                                 |
| tuty cycle 100%  Max. electrical power consumption 4.2 W  desidual ripple 10 %  witching output PNP  unalog output signal range 4 - 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | DC operating voltage range        | 21.6 V26.4 V                              |
| Max. electrical power consumption 4.2 W esidual ripple 10 % witching output PNP unalog output signal range 4 - 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Max. current consumption          | 160 mA                                    |
| residual ripple 10 % witching output PNP unalog output signal range 4 - 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Duty cycle                        | 100%                                      |
| witching output PNP unalog output signal range 4 - 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Max. electrical power consumption | 4.2 W                                     |
| nalog output signal range 4 - 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Residual ripple                   | 10 %                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Switching output                  | PNP                                       |
| nalog input signal range 4 - 20 mA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Analog output signal range        | 4 - 20 mA                                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Analog input signal range         | 4 - 20 mA                                 |

| Feature                                      | Value                                                      |
|----------------------------------------------|------------------------------------------------------------|
| Operating medium                             | Compressed air as per ISO 8573-1:2010 [7:4:4]<br>Inert gas |
| Information on operating and pilot media     | Operation with oil lubrication not possible                |
| Certification                                | RCM compliance mark<br>c UL us - Listed (OL)               |
| KC characters                                | KC EMC                                                     |
| CE marking (see declaration of conformity)   | As per EU EMC directive<br>As per EU RoHS directive        |
| UKCA marking (see declaration of conformity) | To UK instructions for EMC To UK RoHS instructions         |
| Certificate issuing authority                | UL E322346                                                 |
| Corrosion resistance class (CRC)             | 2 - Moderate corrosion stress                              |
| LABS (PWIS) conformity                       | VDMA24364-B2-L                                             |
| Temperature of medium                        | 10 °C50 °C                                                 |
| Degree of protection                         | IP65                                                       |
| Ambient temperature                          | 0 °C60 °C                                                  |
| Product weight                               | 390 g                                                      |
| Linearity                                    | 1 %FS                                                      |
| Hysteresis                                   | 1 %FS                                                      |
| Reproducibility                              | 0.5 %FS                                                    |
| Overall accuracy                             | 1.5 %FS                                                    |
| Temperature coefficient                      | 0.04 %/K                                                   |
| Electrical connection                        | 5-pin<br>M12<br>Plug                                       |
| Type of mounting                             | With through-hole                                          |
| Pneumatic connection 1                       | G1/8                                                       |
| Pneumatic connection 2                       | G1/8                                                       |
| Pneumatic connection 3                       | G1/8                                                       |
| Note on materials                            | RoHS-compliant                                             |
| Housing material                             | Wrought aluminum alloy, anodized                           |